



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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April 28, 1997

TO: File

THRU: Jim Carter, Director  
Mary Ann Wright, Associate Director of Mining  
~~Daron Haddock, Permit Supervisor~~ *ORH*

FROM: Sharon Falvey, Reclamation Specialist *SKF*

RE: Federal Lease U-024316, Tank Seam Application, Bear Canyon Mine  
*#2* ACT/015/025, Emery County Utah.

## Summary

This memo summarizes the data provided to address the Tank Seam submittal and to inform management of information provided in order for them to make a finding on the Determination of Completeness with regard to baseline information for the proposed operations.

This memo is also provided so management can clearly document the findings for completeness to initiate public review on a permit which is currently under protest by the water users. The following presents summaries of the data submitted as an addendum to data in the existing plan and is the supplemental baseline information presented to obtain approval to mine Federal Lease U-024316 within the Tank Seam:

## Ground Water Data

Additional data presented for ground water observation wells included table 2-4 which amends appendix 7-J. This table included water elevations for DH-1A, DH-2 and DH-3A obtained in December 1995, and water elevations from drill holes SDH-1 obtained in August 1994, and for water elevations in SDH-2 and SDH-3 obtained in August 1995, and finally for drill holes MW-117 and MW-116 obtained in September 1996. None of the data for wells from the different areas were presented for the same months in the same year.

No drill log information was presented for SDH-1, SDH-2 or SDH-3. The location of SDH-3 was not provided on the monitoring location map. In a telephone discussion with Charles Reynolds, environmental specialist for the Co-Op Mining Company, Charles indicated that only one sample was obtained from well SDH-1 before the well

*It should be noted that there is a protest currently filed on the application for the tank seam.*  
*NOA 5/1/97*

failed. SDH-2 has a faulty water monitoring device, which they intend to correct when access allows them to get there this year and, the information for SDH-3 is on the opposite side of the Trail Canyon Fault and was not considered associated with this proposed mining block. SDH-1 and SDH-2 lie between the same geologic fault features and they may provide data pertinent to the operations. The MW wells lie outside of these geologic structures and could be influenced separately because of their location outside of the fault system but, may provide some incite to the geohydrology of the area.

The adequacy of baseline information from wells for this mining proposal is deferred to managements decision. It will take more time for the current technical staff to become adequately informed on the tank seam ground water issue since, none of the present staff were involved enough to be familiar with the tank seam ground water hydrology.

The following information was found in past records and should be considered when making the determination of adequacy for public review. Findings in the March 9, 1995 TA stated the following:

"The drilling of DH-4 does not change the conclusions of the past CHIA but, does indicate that any future mining in the Federal lease to the north should be examined to determine the impacts of future mining and interception of the water table."

Additionally, the following was stated in the Divisions T.A. for the Tank Seam Road permit on July 20, 1994:

"The Co-Op Mining Company has drilled 8 exploratory drill holes into the Tank Seam (page 2-13, Appendix 7 - J, PAP). All were dry except one which flows at .5 gallons per minute (g.p.m.)(drilled up from the mine workings in the Blind Canyon Seam). The inflows into the Tank Seam are expected to be much less than those encountered in the Blind Canyon Seam. Stratigraphically, the Tank Seam is 250 feet above the Blind Canyon Seam and therefore, would tend to be drier and not expected to have the ground water inflows found in lower coal seams (i.e., the Blind Canyon and the Hiawatha Seams). There has been no continuous water quality problems associated with mine water discharge at the Bear Canyon Mine and therefore it is not expected to change in the future, although it will be closely watched for any long term trends".

An earlier finding was made by the board in response to the water users protests which

may have bearing on the tank seam and the determination of adequacy for public review for this submittal.

### **Spring Data**

Baseline spring sampling was conducted for the sites as identified in table 1 below. The sampling period for most sites was conducted from 1993 through 1994 for sites in McCadden Hollow. While the sampling period for springs in Bear Creek Canyon were conducted between 1993 and 1996.

With the available information on the Mc Cadden Hollow Springs it seems as though the recharge area for most of these sites are localized. With the exception of FBC-4 and FBC-13 which may have a more extensive recharge since flow was observed through the monitoring period. These springs appear to be associated with fractures and are the northern most monitored springs in this canyon. FBC-13 flowed at the highest rate and ranged from 22 to 60 gallons per/minute over the period for which data was collected.

The proposed extent of mining is approximately 2,250.00 feet away from the southern most spring FBC-2 (estimated by the Division from information contained on plates 7-4 and 3-4C). Information on the localized area dip for McCadden Hollow were not presented on the geologic map. However the regional dip of the lower coal bed north of McCadden Hollow is presented by Dohling 1972, as dipping to the south. Therefore, the likelihood of these springs being impacted during this proposed mining phase would be low. For the presented assumptions and the information reviewed the baseline monitoring for the springs in McCadden Hollow is determined adequate to begin the public comment period for the proposed 1997 tank seam mine operation.

The sampling period for springs in Bear Canyon provided a minimum of 2 samples per quarter over the period sampled (except for the 1st quarter when access is difficult). These sites are located above the coal seam and adjacent to the area proposed to be mined. The Bear Canyon Fault is located near to the springs. The porosity of the fractures and the fault may play a part in flows at these springs. Spring flows from FBC-12 have ranged from 21 to 100 g.p.m. and flows from 16-7-13-1 ranged from 4 to 12 g.p.m. These sites are potentially more susceptible to effects from mining due to the proximity of the mine. However, they do issue out of the formation above the mine and on the east side of the Bear Creek Fault. The furthest proposed extent of mining occurs to the south of these springs and on the west side of the Bear Creek Fault. A 50 foot buffer is proposed along the Creek and the Development pillars are proposed to be left to protect Bear Creek and the Castlegate outcrop. Based on the information reviewed for the Bear Creek Canyon area springs, the operator has obtained adequate data to begin the public comment period for the proposed 1997 tank seam mine operation.

**Table 1: Baseline Spring Sampling**

Site/Location	Date	Site Condition	Comments
FBC-2/McCadden Hollow.	08/01/91	Flowing	Available in the existing plan.
	10/04/92, 6/21/93, 6/16/94.	Not found	
	3/22/93	No Access	
FBC-3/McCadden Hollow.	08/01/91	Flowing	Available in the existing plan.
	6/21/93, 10/15/93, 6/16/94	Not found	
	3/22/93	No Access	
FBC-4/McCadden Hollow.	6/24/93, 8/29/93, 10/15/93, 6/15/94, 8/30/94, 10/31/94.	Flowing	Existing plan baseline sample obtained 08/01/91, 10/13/92.
	3/22/93, 3/30/94,	No Access	
FBC-12/Bear Creek Canyon.	6/29/93, 8/29/93, 10/15/93, 6/15/94, 8/29/94, 10/31/94.	Flowing	
	3/22/93, 3/30/94,	No Access	
FBC-13/North Slope McCadden Hollow.	8/29/93, 10/15/93, 6/15/94, 8/30/94, 10/31/94, 6/28/95.	Flowing	Not found on map.
	3/22/93, 3/30/94.	No Access	
16-7-13-1/ Bear Creek Canyon.	6/8/94, 10/28/94, 7/10/95, 10/18/95, 7/18/96.	Flowing	Associated Water Right.
	3/22/93, 3/29/95	No Access	

### Surface Water Information

No changes in the surface water collection were presented associated with the new lease area. Surface water for the McCadden Hollow Drainage was collected from 1993 through 1994. See table 2. As stated above, the regional dip of the lower coal bed north of McCadden Hollow, as dipping to the south, the likelihood of the springs being impacted during this proposed mining phase is considered low because these springs issue above the coal and are dissected by the drainage to the north of the are proposed to be mined. This drainage is described as an intermittent drainage. With the exception of spring run off and precipitation events, it seems as though the base flows are probably a function of the springs from the north side of the drainage (the combined upstream spring flows values are almost equal to the stream flow). For the presented assumptions and the information reviewed the baseline monitoring for the surface water in McCadden Hollow is determined adequate to begin the public comment period for the proposed 1997 tank seam mining operation.

**Table 2: Surface Water Sampling**

Site/Location	Date	Site Condition	Comments
FBC-1/McCadden Hollow.	6/21/93, 8/29/93, 10/15/93, 6/16/94	Flowing	Existing plan baseline sample obtained 07/31/91
	8/30/94, 10/31/94	Dry	Existing plan dry baseline sample obtained 10/04/92
	3/22/93, 3/30/94	No Access	

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**ADMINISTRATIVE COMPLETENESS REVIEW WORKSHEET**  
(R645-301-150)

DATE: April 24, 1997

REVIEWER(S): S. Falvey, J. Smith, J. Kelley, S. White

APPLICANT: CO-OP Mining Company.

MINE NAME: Bear Canyon Mine

FILE NO. ACT/015/025 SR-97-1

**"Administratively Complete Application"** means an application for permit approval or approval for coal exploration, where required, which the Division determines to contain information addressing each application requirement of the State Program and to contain all information necessary to initiate processing and public review.

**Directions:** The categories listed below correspond to the minimum requirements for information necessary to initiate processing and public review. If a category is checked the Applicant has met the Completeness requirement for that category. If a category is not checked, the Completeness requirements have not been met. The comments column will identify the deficiency and what is necessary to correct it.

**Comments**

301-112	Identification of Interests	<u>X</u>	Information found on pg 1-5.
100	Applicant's Business Structure	<u>N/A</u>	Information is contained in the existing plan.
210	Applicant's Name/Address/Phone	<u>X</u>	Information is contained in the original permit, and provided in the cover letter sent with the application.
220	Resident Agent's Name/Address/Phone	<u>X</u>	Information is contained in the original permit, and provided in the cover letter sent with the application.
230	Name/Address/Phone of AML Fees Payer	<u>X</u>	Information is contained in the original permit.
300	Corporate Structure & Ownership	<u>X</u>	Information is contained in the original permit.
400	Identify Other Mining Operations in US	<u>X</u>	Information is contained in the original permit.
500	Surface & Mineral Ownership	<u>X</u>	Information is contained on pg 2-3, 4

600	Ownership Contiguous to Permit	<u>  X  </u>	Information is contained on pg 2-3,4-3, and Plate 2-3.
700	MSHA Numbers	<u>  X  </u>	Information is contained on pg 2-5.
800	Interest in Contiguous Lands	<u>  N/A  </u>	No change from existing permit.

301-113	Violation Information <i>Will conduct ABS check prior to approval</i>	<u>  DATA  </u>	Information was not contained in the submittal but, is available through the division records. All corporate Structure and ownership is within the State of Utah.
100	Suspension or Revocation Information	<u>  DATA  </u>	Information was not contained in the submittal but, is available through the division records. All corporate Structure and ownership is within the State of Utah.
300	List of Violations - 3 Previous Years	<u>  DATA  </u>	Information was not contained in the submittal but, is available through the division records. All corporate Structure and ownership is within the State of Utah.

301-114	Right of Entry	<u>  X  </u>	Information is contained on pg 2-5.
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301-115	Status of Unsuitability Claims	<u>  N/A  </u>	A status of unsuitability has not been determined for this area.
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301-116	Permit Term	<u>  X  </u>	Information is contained on pg 2-9.
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301-117	....Insurance	<u>X</u>	Information is contained on pg 2-10.
	....Proof of Publication	<u>X</u>	Information is contained on pg 2-10.
	....Facilities and Structures Used in Common	<u>N/A</u>	No Facilities or structures are used in common with other mines.

301-118	Filing Fee	<u>X</u>	A filing fee is not required with significant revisions.
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301-123	Notarized Signature of Responsible Official	<u>X</u>	A notarized signature was provided on the Application for Permit Processing.
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301-130	<b>Information Collection: Technical Data Accompanied by Names of Persons or Organizations that Collected and Analyzed the Data - Dates of Collections - and Analysis of the Data and Description of the Methodology Used to Collect and Analyze Data</b> <i>Lack of data on ground water wells seems to be an issue of Technical adequacy rather than administrative completeness.</i>	<i>Information on wells will need to be provided prior to final approval.</i>
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301-200	Soils	<u>N/A</u>	No new disturbed area is proposed with this amendment therefor soils information was not required.
211	Description of Premining Soil Resources	<u>N/A</u>	No new disturbed area is proposed with this amendment therefor soils information is not required.
221	Prime Farmland Investigation	<u>N/A</u>	No new disturbed area is proposed with this amendment therefore a Prime Farmland investigation is not required.
222	Soil Survey	<u>N/A</u>	No new disturbed area is proposed with this amendment therefore a proposed disturbed area Soil Survey is not required.



224	Substitute Topsoil Info (When Proposed) <u>N/A</u>	No new disturbed area is proposed with this amendment therefore a Substitute Topsoil information is not required
230	Operation Plan: Topsoil Handling/Removal/Storage <u>N/A</u>	No new disturbed area is proposed with this amendment therefore Topsoil handling information is not required.
240	Reclamation Plan: Soil Redistribution/Stabilization <u>N/A</u>	No new disturbed area is proposed with this amendment therefore Soil Redistribution information is not required.

301-300	Biology <u>DRH</u>	
320	Vegetation Information <u>X</u>	Information is contained on plate 9-1.
322	Fish and Wildlife Information <i>Lacking information seems to be tied to technical adequacy rather than administrative completeness. Information on raptors will need to be submitted prior to approval.</i> <u>DRH</u>	Information is contained on pg 10D-17A, and pg 10-14. Also on the Raptor Map.
323	Maps/Photos: Vegetation-Fish-Wildlife Areas <u>X</u>	Information is contained on plates 9-1, 10-1, 3-3.
330	Operation Plan: Vegetation-Fish-Wildlife Protection <u>X</u>	Information is contained in the original pan. Information discussing escarpment protection for raptors and bats will be necessary prior to permit approval.
341	Reclamation Plan for Revegetation <u>N/A</u>	No new disturbed area is proposed with this amendment therefore additional Reclamation Revegetation information is not required
342	Fish & Wildlife Plan for Reclamation Phase <u>N/A</u>	Information is contained in the original plan. No new information is required.

301-400	Land Use and Air Quality <u>N/A</u>	Information is contained in the original plan. No new information is required.
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411	Pre-Mining Land Use Information (Includes Cultural Resources) <u>N/A</u>	Information is contained in the original plan. No new information is required.
412	Post-Mining Land Use Information <u>N/A</u>	Information is contained in the original plan. No new information is required.

301-500	Engineering <u>X</u>	
510 and 520	General Description of Operation Plan: (Maps, Locations, Cross-Sections, Narrative, Descriptions & Calculations) <u>X</u>	
522	Coal Recovery Description <u>X</u>	Information is contained on pp. 3-27 to 3-28.
523	Mining Methods <u>X</u>	Information is contained in the original plan. No change in method is proposed.
524	Blasting and Explosives Plan <u>N/A</u>	
525	Subsidence Control Plan <u>X</u>	Information is contained on plate 3-3.
526	Mine Facilities Description (Narrative, Plans, Maps) Including Existing Structures & Support Facilities <u>N/A</u>	Information is contained in the existing plan.
527	Transportation Facilities (Including Plans & Maps) <u>N/A</u>	Information is contained in the existing plan.
528	Coal Mine Waste Plans (Description & Designs) <u>N/A</u>	Information is contained in the existing plan.
529	Management of Mine Openings (Design) <u>N/A</u>	Information is contained in the existing plan.
531	General Plans for Structures <u>N/A</u>	Information is contained in the existing plan.

532	Sediment Control	<u>N/A</u>	Information is contained in the existing plan.
533	Impoundments	<u>N/A</u>	Information is contained in the existing plan.

301-534	Roads (Plans, Drawings, Designs, & Specifications)	<u>N/A</u>	Information is contained in the existing plan.
535	Spoil	<u>N/A</u>	Information is contained in the existing plan.
536	Coal Mine Waste	<u>N/A</u>	Information is contained in the existing plan.
537	Regraded Slopes	<u>N/A</u>	Information is contained in the existing plan.
540 541-542	Reclamation Narrative, Maps and Plans	<u>N/A</u>	Information is contained in the existing plan.
551	Casing and Sealing: Underground Openings	<u>X</u>	Information is contained in the existing plan.
553	Backfilling and Grading Description	<u>N/A</u>	Information is presented in the existing plan.

301-600	Geology	<u>X</u>	
621	Description of Geology (Permit & Adjacent Area)	<u>X</u>	Information is presented on p.6-17 and 6-18.
622	Geologic Cross-Sections, Maps, and Plans	<u>X</u>	Information is presented on plates 6-1 through 6-12.

630	Plans for Casing and Sealing Holes <u>X</u>	Information is presented in the existing plan.
301-700	Hydrology <u>X</u>	Updated information is provided supplemental to the existing plan.
721	Description of Hydrologic Resources: (Permit and Adjacent Area) <u>X</u>	Updated information is provided supplemental to the existing plan.
722	Cross-Sections and Maps: Subsurface Water - Surface Water - Monitoring Stations - Wells <u>X</u> <i>Information on new well sites to be considered Technical Note</i>	Updated information is provided supplemental to the existing plan. Well logs were not provided for the new well sites. Well SDH-3 was not on the map.
723	Sampling and Analysis <u>X</u>	Data was provided to amend the existing plan.
724	Baseline Information: Ground Water - Surface Water - Geology - Climatological & Supplemental; If Needed <u>X</u>	See the April 28, 1997 memo from S. Falvey.
728	PHC Determination <u>X</u>	Changes have been submitted to update the PHC.
730	General Operation Plan: Minimize Disturbance to Hydrologic Balance & Compliance with Clean Water Act <u>X</u>	A general operation plan was submitted.
731	Ground and Surface Water Protection <u>X</u>	Included in the plan is a discussion on a mining plan buffer zone where pillars are proposed to remain.
732	Ground and Surface Water Monitoring <u>X</u>	Proposed additional ground water monitoring beyond the existing plan includes in-mine monitoring of SBC-13 to replace monitoring at sump SBC- 10 and adds monitoring spring (16-7-13-1).

301-740	<b>Plans and Designs: Operation and Reclamation Plan Sediment Control Measures</b>	<u>N/A</u>	No new disturbed area is proposed with this amendment therefore additional operation and reclamation sediment control information is not required.
	....Siltation Structures	<u>N/A</u>	Information is presented in the existing plan.
	....Sediment Ponds	<u>N/A</u>	
	....Other Treatment Facilities	<u>N/A</u>	
	....Diversions	<u>N/A</u>	
	....Road Drainage	<u>N/A</u>	
	....Impoundments	<u>N/A</u>	
	....Discharge Structures	<u>N/A</u>	
	....Disposal of Excess Spoil	<u>N/A</u>	
	....Coal Mine Waste	<u>N/A</u>	
	....Disposal of Non-Coal Mine Waste	<u>N/A</u>	
	....Casing and Sealing of Wells	<u>X</u>	

301-800	Bonding and Insurance <u>N/A</u>	No new disturbed area is proposed with this amendment therefore additional bonding information is not required.
820	Applicant: Have Adequate Bond at Permit Issuance <u>OK</u> <i>No new disturbance associated with Tank seam revision</i>	Bond Determination was determined adequate for the existing plan on October 14, 1994.
830	Bond Estimate and Calculations Provided <u>N/A</u>	
890	Certificate of Insurance Provided <u>N/A</u>	

302-200	Special Categories of Mining <u>N/A</u>	
210	Experimental Practices Mining <u>N/A</u>	
220	Mountaintop Removal Mining <u>N/A</u>	
230	Steep Slope Mining <u>N/A</u>	
240	Auger Mining <u>N/A</u>	
250	In Situ Processing Activities <u>N/A</u>	

302-260	Coal Processing Plants (Not Located Within Permit Area of Mine) <u>N/A</u>	
270	Variances From Approximate Original Contour Restoration Requirements <u>N/A</u>	
280	Variances for Delay in Contemporaneous Reclamation Requirement in Combined Surface and Underground Coal Mining Activities <u>N/A</u>	

290	Small Operator Assistance Program (SOAP)	<u>N/A</u>	
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302-300	Special Areas of Mining	<u>N/A</u>	
301	Prime Farmland	<u>N/A</u>	Prime farmland information is contained in the existing permit. No new areas are proposed to be disturbed.
302	Alluvial Valley Floors	<u>N/A</u>	Alluvial Valley Floor information is contained in the existing permit. No new surface disturbance is proposed.

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